

REMARKS

Claims 1-12 were presented for examination and were pending in this application. In the latest Office Action, claims 1-12 were rejected, and claims 8 and 9 were objected to. With this amendment, claims 8, 9, and 11 are amended, and claim 12 is canceled. On the basis of the following remarks, consideration of this application and allowance of all pending claims are requested.

The specification has been amended to correct typographical errors identified in the Office Action.

Claims 8 and 9 were objected to because they recite a “conductive grill,” a term not explicitly defined in the specification. The term “conductive grill” has been amended to “plurality of cooling fins,” as suggested in the Office Action.

Claims 1, 3, 8, 9 were objected to as anticipated by U.S. Patent No. 5,964,279 to Mochizuki et al. Applicant respectfully traverses the rejection of claim 1. Original claim 1 recites:

1. *A cooling apparatus for a computer comprising:
a conductive base plate configured to be installed over a CPU
and to transfer heat therefrom;
a heat conductor thermally coupled to the base plate adapted
to carry heat transferred to the base plate by the CPU
away from the base plate;
a heat sink thermally coupled to the heat conductor for
dissipating heat carried by the heat conductor;
a fan for dispersing heat transferred to the heat sink; and
a housing for the heat sink and the fan configured to be
installed adjacent to a window in a computer chassis such
that the fan can direct airflow through the heat sink and out
the window.*

As claimed, the housing for the heat sink and the fan helps to secure the heat sink and fan adjacent to a window of the computer chassis. Mochizuki does not anticipate claim 1 because it does not disclose such a housing.

In the Office Action, FIG. 12 of Mochizuki was applied against claim 1. In relevant part, the examiner cited Mochizuki's element 1 as disclosing the claimed housing for the heat sink and the fan. But this element in Mochizuki is the entire computer chassis — referred to in Mochizuki as a “personal computer case” — not the claimed housing. The claimed housing is not just any housing that encloses the heat sink and the fan; it must also be “configured to be installed adjacent to a window in a computer chassis.” Mochizuki's personal computer case cannot be “installed adjacent to a window in a computer chassis” because that personal computer case *is* the computer chassis. Mochizuki in fact does not describe or illustrate a housing for the fan and heat sink that installs adjacent to a window in the computer chassis. Accordingly, claim 1 is novel over Mochizuki.

Claims 3, 8, and 9 depend from claim 1 and are therefore novel over Mochizuki for the reasons stated above.

Claims 2, 4-7, and 10 were rejected as made obvious by Mochizuki alone or in combination with another reference. In each of these obviousness rejections, Mochizuki was expressly applied to the claims in the same way it was applied to claim 1 or 3. Because the same deficiencies identified above apply to these obviousness rejections, the rejected claims are likewise patentable over the cited references.

Claim 6 is further patentable because it recites that the airflow directed by the fan “through the heat sink and out the window” is also “drawn over a power supply.” As the specification explains, this claimed feature allows the cooling of both the CPU and the power supply with a single airflow (i.e., a single fan). This is made possible by the heat conductor that conducts the heat from the CPU to the heat sink, where a fan can simultaneously direct air through the heat sink and over the power supply. Because the same airflow can be drawn both

over the power supply and through the heat sink, a single fan can cool both the power supply and the CPU simultaneously. This may allow for increased cooling efficiency and/or elimination of the number of fans in the computer. The combination of Mochizuki and Usui does not suggest this claimed limitation.

Usui describes a cooling mechanism for a docking station. In Usui, the power supply being cooled is not within a computer chassis; it is within a docking station for a laptop computer. In Usui's docking station, therefore, there is no CPU to be cooled. So while Usui does disclose directing airflow over a power supply, Usui does not suggest directing the same airflow both over a power supply and through a heat sink that is thermally coupled to a CPU, as claimed. Similarly, while Mochizuki discloses directing an airflow through conductive fins thermally coupled to a CPU, it says nothing of drawing that airflow over a power supply. This obviousness rejection is thus premised upon a combination of one functionality from Mochizuki (i.e., cooling a CPU) with another from Usui (i.e., cooling a power supply). But neither of these reference suggests or in any way realizes the synergistic effect of performing both of these functions with a single fan. The references thus lack any motivation for drawing an airflow both through the heat sink as well as over the power supply, which allows for cooling the CPU and power supply with the same airflow. The only suggestion for this feature is found in the specification, not in the cited references, so the combination is improper. Accordingly, claim 6 is patentable over Mochizuki and Usui for this additional reason.

Claim 11 was rejected as anticipated by Mochizuki. Applicants respectfully assert that claim 11, as amended, is novel over Mochizuki. Claim 11 has been amended to recite "drawing ambient airflow . . . wherein the air flow is directed to pass over a power supply." Claim 11 is novel over Mochizuki because — as the examiner acknowledged in ¶ 9 of the Office Action —

Mochizuki does not disclose an airflow drawn over a power supply. It is further noted that amended claim 11 is patentable over a combination of Mochizuki and Usui (i.e., the combination of references applied against claim 6, which similarly discloses that the "airflow is drawn over a power supply") for the reasons set forth above.

The rejection of claim 12 is moot because claim 12 has been canceled.

Based on the foregoing, the application is in condition for allowance of all claims, and a Notice of Allowance is respectfully requested. If the examiner believes for any reason direct contact would help advance the prosecution of this case to allowance, the examiner is encouraged to telephone the undersigned at the number given below.

Respectfully submitted,
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